LIST OF CONTENTS

Number 1

S. Dong, X. Feng, M. Salcudean and **I. Gartshore**	1	Concentration of pulp fibers in 3D turbulent channel flow
J. Chahed, V. Roig and **L. Masbernat**	23	Eulerian–Eulerian two-fluid model for turbulent gas–liquid bubbly flows
A. Soleimani and **T. J. Hanratty**	51	Critical liquid flows for the transition from the pseudo-slug and stratified patterns to slug flow
R. I. Issa and **M. H. W. Kempf**	69	Simulation of slug flow in horizontal and nearly horizontal pipes with the two-fluid model
H.-Q. Zhang, Q. Wang, C. Sarica and **J. P. Brill**	97	A unified mechanistic model for slug liquid holdup and transition between slug and dispersed bubble flows
K. Sankaranarayanan, I. G. Kevrekidis, S. Sundaresan, J. Lu and **G. Tryggvason**	109	A comparative study of lattice Boltzmann and front-tracking finite-difference methods for bubble simulations
R. R. Nourgaliev, T. N. Dinh, T. G. Theofanous and **D. Joseph**	117	The lattice Boltzmann equation method: theoretical interpretation, numerics and implications
	171	Publisher's Announcement

Number 2

G. Hetsroni, D. Mewes, C. Enke, M. Gurevich, A. Mosyak and **R. Rozenblit**	173	Heat transfer to two-phase flow in inclined tubes
V. Ferrand, R. Bazile, J. Borée and **G. Charnay**	195	Gas–droplet turbulent velocity correlations and two-phase interaction in an axisymmetric jet laden with partly responsive droplets
G. Brenn, H. Braeske, G. Živković and **F. Durst**	219	Experimental and numerical investigation of liquid channel flows with dispersed gas and solid particles
M. C. Ruzicka and **N. H. Thomas**	249	Buoyancy-driven instability of bubbly layers: analogy with thermal convection
C. Kleinstreuer and **Z. Zhang**	271	Laminar-to-turbulent fluid-particle flows in a human air-way model

T. Takamasa, T. Iguchi, T. Hazuku, T. Hibiki and **M. Ishii**	291	Interfacial area transport of bubbly flow under micro-gravity environment
G. Conte and **B. J. Azzopardi**	305	Film thickness variation about a T-junction
Brief communication		
S. Baik and **T. J. Hanratty**	329	Concentration profiles of droplets and prediction of the transition from stratified to annular flow in horizontal pipes
	339	Announcement

Number 3

G. Hetsroni, A. Mosyak, Z. Segal and **E. Pogrebnyak**	341	Two-phase flow patterns in parallel micro-channels
Y. Tanaka, G. Oba and **Y. Hagiwara**	361	Experimental study on the interaction between large scale vortices and particles in liquid–solid two-phase flow
I. Iliopoulos, Y. Mito and **T. J. Hanratty**	375	A stochastic model for solid particle dispersion in a nonhomogeneous turbulent field
T. Takamasa, T. Goto, T. Hibiki and **M. Ishii**	395	Experimental study of interfacial area transport of bubbly flow in small-diameter tube
Q. Liao and **T. S. Zhao**	411	Modeling of Taylor bubble rising in a vertical mini non-circular channel filled with a stagnant liquid
W. Z. Li, Y. Y. Yan and **J. M. Smith**	435	A numerical study of the interfacial transport characteristics outside spheroidal bubbles and solids
T. Sato, O. P. Solonenko and **H. Nishiyama**	461	Numerical simulation of a particle-laden plasma flow in a complex configuration under an electromagnetic field
J. Wang, D. D. Joseph, N. A. Patankar, M. Conway and **R. D. Barree**	475	Bi-power law correlations for sediment transport in pressure driven channel flows
P. Singh, T. I. Hesla and **D. D. Joseph**	495	Distributed Lagrange multiplier method for particulate flows with collisions
D. Lhuillier	511	A mean-field description of two-phase flows with phase changes

Number 4

G. Oddie, H. Shi, L. J. Durlofsky, K. Aziz, B. Pfeer and **J. A. Holmes**	527	Experimental study of two and three phase flows in large diameter inclined pipes

P. Di Marco, W. Grassi, G. Memoli, T. Takamasa, A. Tomiyama and **S. Hosokawa**	559	Influence of electric field on single gas-bubble growth and detachment in microgravity
E. Climent and **M. R. Maxey**	579	Numerical simulations of random suspensions at finite Reynolds numbers
R. Luo, X. H. Pan and **X. Y. Yang**	603	Laminar light particle and liquid two-phase flows in a vertical pipe
J. D. Sherwood	621	Bubble collection by a point sink in a uniform flow
J. B. Blaisot and **S. Adeline**	629	Instabilities on a free falling jet under an internal flow breakup mode regime
F. J. Moraga, A. E. Larreteguy, D. A. Drew and **R. T. Lahey Jr.**	655	Assessment of turbulent dispersion models for bubbly flows in the low Stokes number limit
M. Sommerfeld	675	Analysis of collision effects for turbulent gas–particle flow in a horizontal channel: Part I. Particle transport
M. Sommerfeld and **J. Kussin**	701	Analysis of collision effects for turbulent gas-particle flow in a horizontal channel. Part II. Integral properties and validation
G. Yadigaroglu	719	Letter to the Editor. CMFD (a brand name) and other acronyms

Number 5

S. A. Slater, A. D. Leeming and **J. B. Young**	721	Particle deposition from two-dimensional turbulent gas flows
H. Gan, J. J. Feng and **H. H. Hu**	751	Simulation of the sedimentation of melting solid particles
V. C. Khatumria and **R. S. Miller**	771	Numerical simulation of a fuel droplet laden exothermic reacting mixing layer
A. Günther, S. Wälchli and **P. R. von Rohr**	795	Droplet production from disintegrating bubbles at water surfaces. Single vs. multiple bubbles
T. Lemenand, D. D. Valle, Y. Zellouf and **H. Peerhossaini**	813	Droplets formation in turbulent mixing of two immiscible fluids in a new type of static mixer
P. Tisné, F. Aloui and **L. Doubliez**	841	Analysis of wall shear stress in wet foam flows using the electrochemical method

Brief communication

M. K. Akbar, D. A. Plummer and **S. M. Ghiaasiaan** 855 On gas–liquid two-phase flow regimes in microchannels

867 Announcements

Number 6

J. Ferry, S. L. Rani and **S. Balachandar** 869 A locally implicit improvement of the equilibrium Eulerian method

M. Shin, D. S. Kim and **J. W. Lee** 893 Deposition of inertia-dominated particles inside a turbulent boundary layer

D. Lakehal and **C. Narayanan** 927 Numerical analysis of the continuum formulation for the initial evolution of mixing layers with particles

Z.-G. Feng and **E. E. Michaelides** 943 Equilibrium position for a particle in a horizontal shear flow

Z.-J. Xu and **E. E. Michaelides** 959 The effect of particle interactions on the sedimentation process of non-cohesive particles

M. S. Nigam 983 Numerical simulation of buoyant mixture flows

C. Marchioli, A. Giusti, M. V. Salvetti and **A. Soldati** 1017 Direct numerical simulation of particle wall transfer and deposition in upward turbulent pipe flow

1039 Announcement

Number 7

1041 Workshop on Scientific Issues in Multiphase Flow

T. J. Hanratty 1043 Foreword

1045 Table of Contents

T. J. Hanratty, T. Theofanous, J.-M. Delhaye, J. Eaton, J. McLaughlin, A. Prosperetti, S. Sundaresan and **G. Tryggvason** 1047 Workshop Findings

T. G. Theofanous and **T. J. Hanratty** 1061 Appendix 1. Report of study group on flow regimes in multifluid flow

S. Sundaresan, J. Eaton, D. L. Koch and **J. M. Ottino** 1069 Appendix 2: Report of study group on disperse flow

A. Prosperetti and **G. Tryggvason** 1089 Appendix 3: Report of study group on computational physics

J.-M. Delhaye and **J. B. McLaughlin** 1101 Appendix 4: Report of study group on microphysics

S. Nas and **G. Tryggvason** 1117 Thermocapillary interaction of two bubbles or drops

K. Jurski and **E. Géhin** 1137 Heterogeneous condensation process in an air water vapour expansion through a nozzle—experimental aspect

M. S. Politano, P. M. Carrica and **J. Converti** 1153 A model for turbulent polydisperse two-phase flow in vertical channels

Brief communications

U. Shavit, S. Moltchanov and **Y. Agnon** 1183 Particles resuspension in waves using visualization and PIV measurements – coherence and intermittency

Y. Taitel, L. Pustylnik, M. Tshuva and **D. Barnea** 1193 Flow distribution of gas and liquid in parallel pipes

Number 8

P. de Jong and **K. S. Gabriel** 1203 A preliminary study of two-phase annular flow at micro-gravity: experimental data of film thickness

S. Fujikawa, R. Zhang, S. Hayama and **G. Peng** 1221 The control of micro-air-bubble generation by a rotational porous plate

S. K. Das, N. Putra and **W. Roetzel** 1237 Pool boiling of nano-fluids on horizontal narrow tubes

B. B. Saha, S. Koyama, J. B. Lee, K. Kuwahara, K. C. A. Alam, Y. Hamamoto, A. Akisawa and **T. Kashiwagi** 1249 Performance evaluation of a low-temperature waste heat driven multi-bed adsorption chiller

D. S. Martula, R. T. Bonnecaze and **D. R. Lloyd** 1265 The effects of viscosity on coalescence-induced coalescence

R. J. Lorentzen, G. Nævdal and **A. C. V. M. Lage** 1283 Tuning of parameters in a two-phase flow model using an ensemble Kalman filter

S. V. Apte, K. Mahesh, P. Moin and **J. C. Oefelein** 1311 Large-eddy simulation of swirling particle-laden flows in a coaxial-jet combustor

B. Shotorban, F. Mashayek and **R. V. R. Pandya** 1333 Temperature statistics in particle-laden turbulent homogeneous shear flow

Brief communication
J. Lin, X. Shi and **Z. Yu** 1355 The motion of fibers in an evolving mixing layer

Number 9

Y. Mito and **T. J. Hanratty** 1373 A stochastic description of wall sources in a turbulent field. Part 1: Verification

A. A. Mouza, S. V. Paras and **A. J. Karabelas** 1395 Incipient flooding in inclined tubes of small diameter

T. Fukano and **T. Inatomi** 1413 Analysis of liquid film formation in a horizontal annular flow by DNS

T. Tsuji, R. Narutomi, T. Yokomine, S. Ebara and **A. Shimizu** 1431 Unsteady three-dimensional simulation of interactions between flow and two particles

M. M. Razzaque, A. Afacan, S. Liu, K. Nandakumar, J. H. Masliyah and **R. S. Sanders** 1451 Bubble size in coalescence dominant regime of turbulent air–water flow through horizontal pipes

D. R. Kaushal and **Y. Tomita** 1473 Comparative study of pressure drop in multisized particulate slurry flow through pipe and rectangular duct

D. D. Joseph, A. M. Kamp, T. Ko and **R. Bai** 1489 Modeling foamy oil flow in porous media II: Nonlinear relaxation time model of nucleation

S. V. Apte, M. Gorokhovski and **P. Moin** 1503 LES of atomizing spray with stochastic modeling of secondary breakup

D. A. McNeil and **A. D. Stuart** 1523 The effects of a highly viscous liquid phase on vertically upward two-phase flow in a pipe

Number 10

G. Hetsroni, M. Gurevich, A. Mosyak, E. Pogrebnyak, R. Rozenblit and **L. P. Yarin** 1551 Boiling in capillary tubes

A. Ullmann, M. Zamir, S. Gat and **N. Brauner** 1565 Multi-holdups in co-current stratified flow in inclined tubes

A. Ullmann, M. Zamir, Z. Ludmer and **N. Brauner** 1583 Stratified laminar countercurrent flow of two liquid phases in inclined tubes

F. García, R. García, J. C. Padrino, C. Mata, J. L. Trallero and **D. D. Joseph** 1605 Power law and composite power law friction factor correlations for laminar and turbulent gas–liquid flow in horizontal pipelines

B. Yu, J. Li, Z. Li and **M. Zou** 1625 Permeabilities of unsaturated fractal porous media

1643 Publisher's Note

Number 11

Y. Hardalupas and **S. Horender** 1645 Fluctuations of particle concentration in a turbulent two-phase shear layer

S. Natan, D. Barnea and **Y. Taitel** 1699 Direct steam generation in parallel pipes

M. Bonizzi and **R. I. Issa** 1685 A model for simulating gas bubble entrainment in two-phase horizontal slug flow

M. Bonizzi and **R. I. Issa** 1719 On the simulation of three-phase slug flow in nearly horizontal pipes using the multi-fluid model

Brief communications

S. Baik and **T. J. Hanratty** 1749 Effects of a drag reducing polymer on stratified gas–liquid flow in a large diameter horizontal pipe

Y. V. Fairuzov 1759 Transient gravity-driven countercurrent two-phase liquid–liquid flow in horizontal and inclined pipes

Number 12

T.-H. Yen, N. Kasagi and **Y. Suzuki** 1771 Forced convective boiling heat transfer in microtubes at low mass and heat fluxes

S. L. Rani and **S. Balachandar** 1793 Evaluation of the equilibrium Eulerian approach for the evolution of particle concentration in isotropic turbulence

M. I. Briceño and **D. D. Joseph** 1817 Self-lubricated transport of aqueous foams in horizontal conduits

G. F. Naterer 1833 Dispersed multiphase flow with air-driven runback of a liquid layer at a moving boundary

H. C. Lee, B. D. Oh, S. W. Bae and **M. H. Kim** 1857 Single bubble growth in saturated pool boiling on a constant wall temperature surface

I List of Contents and Author Index for Volume 29 (2003)